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ANDERSON, JAMES D	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/682,662	**Applicant(s)** TAS ET AL.
	Examiner JAMES D. ANDERSON	**Art Unit** 1614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2008*.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *32,34 and 36* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☒ Claim(s) *34* is/are allowed.
6)☒ Claim(s) *32 and 36* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Formal Matters

Applicants' response and amendments to the claims, filed 11/26/2008, are acknowledged and entered. Claims 32, 34, and 36 are pending and under examination.

Claim Rejections - 35 USC § 112 – 1st Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The rejection of claims 32, 34, and 36 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, is **withdrawn** in light of Applicant's arguments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 32 and 36 are again rejected under 35 U.S.C. 103(a) as being unpatentable over USP No. 6,432,970 (Issued Aug. 13, 2002; Filed June 4, 1998) ("**Beachy *et al.***").

The prior art discloses treating various disorders and especially psoriasis (column 11, lines 35- 49; col. 41, lines 36-57) with a steroidal alkaloid hedgehog antagonist, *e.g.*, cyclopamine (Figure 1; column 19, lines 40 and 41). Additional steroids can be co-administered therewith, *e.g.*, hydrocortisone (column 28, lines 40-55). Beachy *et al.* explicitly indicate psoriasis as a proliferative skin disorder encompassed by the disclosure (col. 10, line 63 to col. 11, line 1), define what is meant by the term psoriasis (col. 11, lines 37-49), and explicitly discuss the treatment of psoriasis with a preparation of the invention (col. 41, lines 36-57). Beachy *et al.* also acknowledge the fact that hedgehog antagonists can be inductive or anti-inductive with respect to proliferation or differentiation of a given tissue (col. 29, lines 45-47).

The prior art states that an "effective amount" of hedgehog antagonist is that which brings about "a change in the rate of cell proliferation and/or the state of differentiation of a cell" (col. 9, lines 8-15). Patentees are silent regarding the particular differentiation-related dosing recitations of instant claims 32 and 34, but the state of the prior art is such that they would reasonably be expected to naturally occur when cyclopamine is administered in an effective amount to a patient having psoriasis as suggested and motivated by Beachy *et al.* Furthermore, with regard to instant claim 36, which is not specific to differentiation inducing doses, all that is required is even a minor "decrease" in severity of psoriatic lesions to meet the limitations of those claims as currently constructed. Thus, any "effective" therapy would be expected to exhibit sufficient symptomatic relief to fall with the metes and bounds of those claims. In this regard, Beachy et al. teach that treatment with an antiproliferative embodiment of the subject method can be used to reverse the pathological epidermal activation of psoriasis and can provide a basis for "sustained remission of the disease" (col. 41, lines 54-57).

With regard to inducing differentiation as recited in the instant claims, Beachy *et al.* disclose that the subject method of the invention can be used to "**induce differentiation** of epithelially-derived tissue" (col. 41, lines 17-19) and that a hedgehog antagonist, which "**promotes quiescence or differentiation**" can be used to treat varying forms of psoriasis (col. 41, lines 47-50).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to administer cyclopamine to a patient having psoriasis. Beachy *et al.* explicitly contemplate and suggest such a treatment method and the recent decision in *KSR vs. Teleflex* supports rejections over prior art where there are a finite number of predictable solutions. In such cases, it is not deemed an act of invention to try different embodiments of the prior art treatment methods to determine which one works best when Beachy *et al.* clearly suggest that compounds of the invention are useful for treating psoriasis. For example, Beachy *et al.* exemplify the treatment of psoriasis with a compound of the invention and further exemplify cyclopamine as a compound of the invention. As such, it would take no more than routine experimentation to administer different doses of cyclopamine to patients having psoriasis in order to determine a therapeutically effective dose given the teachings of Beachy *et al.*

Applicant's arguments have been carefully considered but they are not persuasive. Applicants first argue that Beachy *et al.* disclose on the one hand an "unlimited number of compounds" that are said to inhibit Hedgehog (Hh) signaling and disclose on the other hand a long "open-ended" list of disorders that are said to be treated by administration of a subject compound. Applicants thus argue that because Beachy *et al.* does not describe a single instance of a treatment of an enlisted disorder, it is impossible to state that a therapeutic outcome in a particular disorder is made anticipated or obvious by the disclosure. In response to Applicant's argument that Beachy discloses an "unlimited number of compounds", while it is certainly true that Beachy discloses a large genus of compounds purported to inhibit Hh signaling, cyclopamine as recited in the instant claims is one of only six compounds exemplified in Figure 1, and steroid alkaloids such as cyclopamine are preferred compounds of the invention (col. 19, lines 27-30 and lines 35-38). As such, one skilled in the art could "readily envisage" using cyclopamine in the subject methods disclosed in Beachy *et al.* With respect to the disorders disclosed in Beachy *et al.*, the treatment of psoriasis is exemplified numerous times in Beachy *et al.* In this regard, the Examiner refers to the following statements in Beachy *et al.* regarding treating psoriasis:

> Throughout this application, the term "proliferative skin disorder" refers to any disease/disorder of the skin marked by unwanted or aberrant proliferation of cutaneous tissue. These conditions are typically characterized by epidermal cell proliferation or incomplete cell differentiation, and include, for example, X-

> linked ichthyosis, **psoriasis**, atopic dermatitis, allergic contact dermatitis, epidermolytic hyperkeratosis, and seborrheic dermatitis (col. 10, line 63 to col. 11, line 3)
>
> As used herein, the term "**psoriasis**" refers to a hyperproliferative skin disorder which alters the skin's regulatory mechanisms. In particular, lesions are formed which involve primary and secondary alterations in epidermal proliferation, inflammatory responses of the skin, and an expression of regulatory molecules such as lymphokines and inflammatory factors. Psoriatic skin is morphologically characterized by an increased turnover of epidermal cells, thickened epidermis, abnormal keratinization, inflammatory cell infiltrates into the dermis layer and polymorphonuclear leukocyte infiltration into the epidermis layer resulting in an increase in the basal cell cycle. Additionally, hyperkeratotic and parakeratotic cells are present (col. 11, lines 37-49)
>
> In another aspect of the invention, **the subject method can be used to induce differentiation of epithelially-derived tissue**. Such forms of these molecules can provide a basis for differentiation therapy for the treatment of hyperplastic and/or neoplastic conditions involving epithelial tissue. For example, such preparations can be used for the treatment of cutaneous diseases in which there is abnormal proliferation or growth of cells of the skin (col. 41, lines 17-24)
>
> The subject method can also be used in the treatment of autoimmune diseases affecting the skin, in particular, of dermatological diseases involving morbid proliferation and/or keratinization of the epidermis, as for example, caused by **psoriasis** or atopic dermatosis (col. 41, lines 31-35)
>
> In one embodiment, the preparations of the present invention are suitable for the treatment of dermatological ailments linked to keratinization disorders causing abnormal proliferation of skin cells, which disorders may be marked by either inflammatory or non-inflammatory components. To illustrate, therapeutic preparations of a hedgehog antagonist, e.g., which promotes quiescense or differentiation can be used to **treat varying forms of psoriasis**, be they cutaneous, mucosal or ungual. Psoriasis, as described above, is typically characterized by epidermal keratinocytes which display marked proliferative activation and differentiation along a "regenerative" pathway. Treatment with an antiproliferative embodiment of the subject method can be used to reverse the pathological epidermal activiation and can provide a basis for sustained remission of the disease (col. 41, lines 43-57)

Accordingly, the Examiner is not persuaded by Applicant's argument that Beachy *et al.* does not render obvious the administration of cyclopamine to treat psoriasis.

Secondly, Applicants argue that Beachy *et al.* are “inoperative in entire categories of its disclosure" and that the effects of a subject Hh antagonist of the differentiation of cells in Beachy *et al.* are self-contradicting even for a particular cell type. However, as discussed *supra*, Beachy *et al.* explicitly teach that the subject method of the invention can be used to "induce differentiation of epithelially-derived tissue" (col. 41, lines 17-19) and that a hedgehog antagonist, which "promotes quiescence or differentiation" can be used to treat varying forms of psoriasis (col. 41, lines 47-50). As such, there is nothing ambiguous or contradicting about Beachy's teachings with respect to treating psoriasis with an Hh signaling inhibitor such as cycoplamine. The fact that Beachy *et al.* suggest that the effects of an Hh signaling inhibitor might have different effects in different tissues or pathologies is not pertinent to the present rejection because the treatment of psoriasis via promotion of differentiation is explicitly suggested therein.

Thirdly, Applicants argue that the exemplification and other experimental findings described in Beachy *et al.* teach that treatment with an Hh antagonist will cause inhibition of differentiation and inhibition of proliferation of treated cells. Applicants allege that Beachy *et al.* describe and conclude that sufficiently high doses of cyclopamine consistently and selectively inhibited the differentiation events induced by Hh signaling. In support of this argument, Applicants refer the Examiner to col. 58, lines 15-19; col. 63, lines 24-29; col. 5, lines 26-29; and col. 6, lines 46-49. The Examiner has inserted the above citations below for ease of discussion.

> As can be seen in FIGS. 3D-K, all of these compounds affect Shh signaling, with a complete loss of HNF3 and Isl-1 expression consistently caused by sufficiently high concentrations (FIGS. 3E, G, J, K) (col. 58, lines 15-19)
>
> A further indication of the specificity of these effects is the inability of these compounds to block cell behaviors such as migration expression of Pax7, or HNK-1, or the response to other inductive signals such as BMP7 at concentrations that completely block the response to Shh signaling (col. 63, lines 24-29)
>
> Higher doses of the teratogenic compounds AY 9944 (4.0 μM, J), triparanol (1.0 μM, I), jervine (4.0 μM, J), and cyclopamine (1.0 μM, K) and fully inhibit HNF3β and Isl-1 induction (col. 5, lines 26-29)
>
> HNF3β and Isl-1 induction are completely blocked at 2-fold higher doses of inhibitors AY 9944 (2.0 μM, P), triparanol (0.5 μM, Q), jervine (0.5 μM, R), and cyclopamine (0.25 μM, S) (col. 6, lines 46-49)

The Examiner fails to see where in any of the above cited passages of Beachy *et al.* "differentiation" is mentioned, where Beachy *et al.* teach that treatment with a Hh antagonist will cause inhibition of differentiation and inhibition of proliferation of treated cells, or where Beachy *et al.* describe and conclude that sufficiently high doses of cyclopamine consistently and selectively *inhibited* the differentiation events induced by Hh signaling.

Fourthly, Applicants allege that the outcomes contemplated on the basis of the described experimental findings with epithelial cells are again "causation of the inhibition of differentiation and inhibition of proliferation of treated cells". Applicants refer to col. 39, line 65 to col. 40, line 12 as describing that Hh signaling induces differentiation and proliferation of various epithelial cells and "thus" the subject method can be used in the treatment of the proliferative disorders involving said cells. The cited passage of Beachy *et al.* relates the regulation of mitogenesis and photoreceptor differentiation in the vertebrate retina, not to psoriasis, and "thus" the subject method can be used in the treatment of proliferative diseases **of retinal cells** and regulate photoreceptor differentiation. With regard to treating psoriasis, which is more pertinent to the present rejection, Beachy *et al.* explicitly teach that the subject method of the invention can be used to "**induce differentiation of epithelially-derived tissue**" (col. 41, lines 17-19) and that a hedgehog antagonist, which "**promotes quiescence or differentiation**" can be used to **treat varying forms of psoriasis** (col. 41, lines 47-50).

Fifthly, Applicants argue that the presently claimed invention is not made obvious by the unsupported and self-contradicting disclosures in the Beachy et al. publication wherein there is not a single instance of a description of a treatment of an enlisted disorder. In support of this argument, Applicants argue that the presently claimed invention is "highly unexpected and nonobvious not only in view of Beachy et al. as a whole but also the "entire prior art as shown below" by multiple findings of fact. The Examiner will address Applicant's "findings of fact" in the same order presented by Applicants.

(i) *Causation of inhibition of proliferation of cells does not make their differentiation expected or anticipated*

The Examiner does not dispute this fact. However, the fact that cyclopamine was found by Applicants to cause differentiation of epidermal cells in psoriasis is not unexpected in view of the fact that Beachy et al. suggest that the subject methods of their invention can be used to "**induce differentiation of epithelially-derived tissue**" (col. 41, lines 17-19) and that a hedgehog antagonist, which "**promotes quiescence or differentiation**" can be used to **treat varying forms of psoriasis** (col. 41, lines 47-50).

> (ii) *With regard to the administration of cyclopamine to a patient having psoriasis, the investigation results described in the instant application show that a dose of cyclopamine effective to inhibit proliferation of the epidermal cells in lesional skin does not produce morphological normalization of the lesional skin and does not produce clearance or disappearance of lesions unless a much greater dose is administered*

The fact that lower doses of cyclopamine have a different effect (inhibit proliferation) than higher doses of cyclopamine (induction of differentiation) in patients having psoriasis is not unexpected. One skilled in the art looking to treat psoriasis with cyclopamine would seek to administer enough cyclopamine so as to promote differentiation as suggested and motivated by Beachy et al. as discussed supra.

> *(iii) Hh signaling was described in prior art to have a direct stimulatory effect on cellular proliferation (Barnes E et al, EMBO Journal 2001;20:2214-2223). Causation of an inhibition of proliferation effect on the cells was therefore a naturally expected outcome of the application of a Hh antagonist to cells. The therapeutic effect expected to be achieved by administration of a Hh antagonist to a patient was similarly an inhibition of proliferation. The effect that a skilled artisan can unambiguously derive from Beachy et al is also an inhibition of proliferation effect upon treatment with a Hh antagonist*

As discussed supra, the effect in treating psoriasis by administering a Hh inhibitor disclosed in Beachy et al. is to "**induce differentiation of epithelially-derived tissue**" (col. 41, lines 17-19) because a hedgehog antagonist, which "**promotes quiescence or differentiation**" can be used to **treat varying forms of psoriasis** (col. 41, lines 47-50). The fact that Beachy et al. additionally teach that Hh antagonist can be used to inhibit cell proliferation does not mean that induction of differentiation would not be an expected effect when treating psoriasis. Beachy et al. explicitly suggest that hedgehog antagonists promote differentiation and can thus be used to treat psoriasis.

> (iv) *Hh signaling was known in prior art to be required for normal functioning of various cell types in an adult, in particular, stem cells were described to have an absolute dependence on Hh signaling (Zhang Yet al, Nature 2001 ;410:599-604). A skilled artisan was further aware that adverse effects of prior art psoriasis medicaments on stem cells*

> *and on other undifferentiated cells severely limit the doses that can be administered to a patient (see e.g. the review article cited on page 3, lines 8-9 of specification). The skilled artisan would therefore be discouraged by the actual experimental findings in prior art and warned about administering a Hh antagonist to a psoriasis patient*

Beachy et al. explicitly suggest and motivate the treatment of psoriasis with an inhibitor of Hh signaling. The fact that such administration might have adverse effects does not discourage such treatment because one skilled in the art is well aware that administration of any medicament to a human patient might have potential side effects. Determining the therapeutic window (maximum efficacy and minimal toxicity) is more than routine in the art.

> *(v) Lesional skin in psoriasis contains numerous other cell types besides the epidermal cells. It is unknown a priori that the effects of a Hh antagonist on the different cell types in a tissue will be in the same direction or therapeutically beneficial*

This is not persuasive because this is not claimed. The claims simply recite “treating psoriasis” and "inducing differentiation of epidermal cells in psoriatic lesional skin”. The effects of an Hh antagonist on other types of cells in lesional skin is not pertinent to the present rejection.

> *(vi) Hh family of proteins were discovered originally for their effects on embryonal patterning where they acted to induce differentiation of various cell types. Thus, the expected effect of treating cells with a Hh antagonist was the causation of an inhibition of differentiation*

As discussed above, the effects of an Hh antagonist on other cell types is not pertinent to the present rejection because Beachy et al. explicitly suggest administering a Hh inhibitor to "**induce differentiation of epithelially-derived tissue**" (col. 41, lines 17-19) and a hedgehog antagonist, which "**promotes quiescence or differentiation**" can be used to **treat varying forms of psoriasis** (col. 41, lines 47-50).

> *(vii) The specification in the present application describes downregulation of the epidermal growth factor receptor (EGFR) expression by administration of a specific*

> *inhibitor of Hh signaling to the lesional skin where EGFR expression was markedly increased*

This is not persuasive because this is not claimed. The claims simply recite "treating psoriasis" and "inducing differentiation of epidermal cells in psoriatic lesional skin".

> *(viii) A prior art publication co-authored by the first-named inventor of US 6432970 and submitted and published after the filing of the application for US 6432970 describes experiments where cells were treated with cyclopamine or with a derivative thereof to inhibit their proliferation (Taipale J et al, Nature 2000;406:1005-1009). Treatments with varying doses of cyclopamine or a derivative thereof causing maximal inhibition of proliferation in association with abolishment of Hh signaling are described (see page 1007, Figure 3; notice in Figure 3c and in Figure 3d plateau in the effect of inhibitor at the highest doses). The authors do not describe an induction of differentiation effect on the treated cells*

The cells treated in Taipale were not from psoriatic skin lesions and Taipale did not measure induction of differentiation. This does not suggest that the effects suggested by Beachy et al. in treating psoriasis (induction of differentiation of epithelially-derived tissue and promotion of differentiation) will not occur.

> *(ix) Psoriasis was considered in prior art to be a primarily T-cell mediated disease caused by CD4(+) and CDS(+) T lymphocytes. Many treatments directed specifically to said cells were described in prior art but none was found to have a therapeutic efficacy that can even be compared to that described in the present application*

The effects of other treatments not taught or suggested in Beachy et al. in comparison to the claimed treatment is not pertinent to the present rejection.

> *(x) Beachy et al teach that treatment with an antiproliferative embodiment of the subject method will provide sustained remission of the disease in a patient having psoriasis (column 41, lines 54-57). However, a minimal dose of a Hh antagonist effective to cause inhibition of proliferation of the epidermal cells in psoriatic lesional skin clearly fails to*

> *cause normalization of lesional skin. Further, it is described in the present application with actual treatments of psoriasis patients that the treatment for a day failed to cause clearance of lesions in about one third of cases and the lesions showed worsening upon discontinuation of administration of cyclopamine (see page 27, lines 8-12). This is an outcome unexpected from the teaching of Beachy et al stating that causation of an inhibition of proliferation effect in psoriasis will cause sustained remission of the disease*

Beachy et al. also teach (as discussed supra) that the effect in treating psoriasis by administering a Hh inhibitor disclosed in Beachy et al. is to "**induce differentiation of epithelially-derived tissue**" (col. 41, lines 17-19) because a hedgehog antagonist, which "**promotes quiescence or differentiation**" can be used to **treat varying forms of psoriasis** (col. 41, lines 47-50). If Applicants are suggesting an unexpected result, the Examiner respectfully suggests that they limit the claims to the treatment protocol in which the unexpected results are observed. The present claims broadly recite administering cyclopamine in a sufficient amount that induces differentiation of epidermal cells in psoriatic lesional skin and regression and/or disappearance of the psoriatic lesions. This is precisely what Beachy et al. suggest in their treatment methods relating to psoriasis.

With regard to KSR, Applicants assert that Beachy et al. do not present a small, finite number of alternatives which can be easily traversed to come up with the present invention. Rather, Applicants argue that Beachy et al. disclose an "infinite number of compounds" for treatment of an extremely long and open-ended list of disorders without a single instance of a treatment of an enlisted disorder. However, as discussed supra, while it is certainly true that Beachy discloses a large genus of compounds purported to inhibit Hh signaling, cyclopamine as recited in the instant claims is one of only six compounds exemplified in Figure 1, and steroid alkaloids such as cyclopamine are preferred compounds of the invention (col. 19, lines 27-30 and lines 35-38). As such, one skilled in the art could "readily envisage" using cyclopamine in the subject methods disclosed in Beachy *et al.* With respect to the disorders disclosed in Beachy *et al.*, the treatment of psoriasis is exemplified numerous times in Beachy *et al.* (col. 10, line 63 to col. 11, line 3; col. 11, lines 37-49; col. 41, lines 17-24; col. 41, lines 31-35; col. 41, lines 43-57).

As such, it is the position of the Examiner that one skilled in the art could readily envisage using cyclopamine to treat psoriasis in view of the teachings of Beachy et al.

With regard to claim 34, the Examiner is persuaded that (i) Beachy et al. teach away from using a corticosteroid in combination with an inhibitor of Hh signaling and (ii) Applicants have demonstrated that a combination of cyclopamine and corticosteroid is unexpectedly superior to a corticosteroid alone. As such, claim 34 is removed from this rejection.

Allowable Subject Matter

Claim 34 is allowed over the prior art of record.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES D. ANDERSON whose telephone number is (571)272-9038. The examiner can normally be reached on MON-FRI 9:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel can be reached on 571-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James D Anderson/
Examiner, Art Unit 1614

/Ardin Marschel/
Supervisory Patent Examiner, Art Unit 1614